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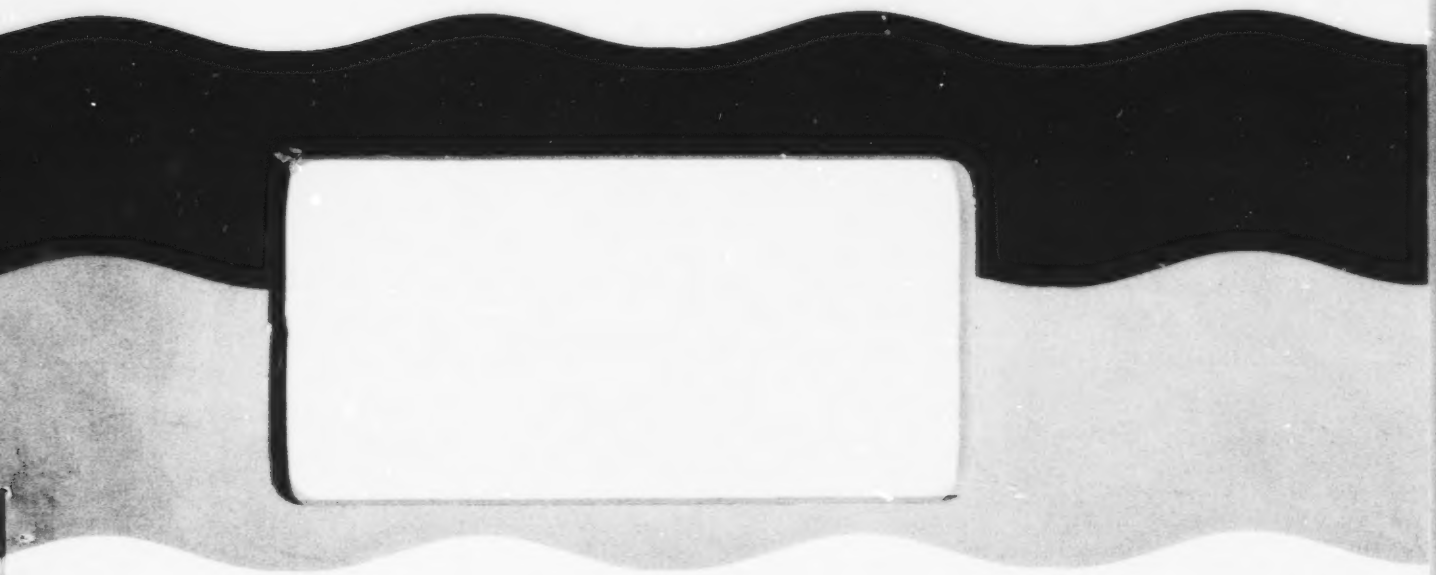

Investigation Report to the Minister pursuant to sections 542 or 545 of the Canada Shipping Act

Rapport d'investigation au Ministre conformément aux articles 542 ou 545 de la Loi sur la marine marchande du Canada

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INVESTIGATION REPORT INTO THE CIRCUMSTANCES SURROUNDING THE GROUNDING AND ABANDONMENT OF THE CANADIAN F.V. "MONIKAROLINE S" ON GROSSE BOULE ISLAND, BAY OF SEPT-ILES, QUEBEC, ON APRIL 7, 1986.

Report No. 435

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INVESTIGATION REPORT INTO THE CIRCUMSTANCES SURROUNDING THE GROUNDING AND ABANDONMENT OF THE CANADIAN F.V. "MONIKAROLINE S" ON GROSSE BOULE ISLAND, BAY OF SEPT-ILES, QUEBEC, ON APRIL 7, 1986.

Particulars of Vessel

Name	"MONIKAROLINE S"
Official Number	801119
Nationality	Canadian
Port of Registry	Quebec
Call Sign	VA9670
Gross Tonnage	68.11
Net Tonnage	21.18
Registered Length	16.76 m
Registered Breadth	6.10 m
Registered Depth	2.65 m
Built	1982, by Les Industries A.C. Davie Inc., Levis, Quebec
Draught	F: 1.83 m A: 2.74 m M: 2.29 m
Type	Steel hulled small fishing vessel
Propulsion	6 cylinder Caterpillar diesel type D353, 425 b.h.p. driving a single, stainless steel, controllable pitch propeller in a Kort nozzle. Speed 9.3 knots.
Generators	One (1) main engine driven 32 V. 60 amps. Two (2) Perkins, 4 cylinder air cooled. 32 KW
Pumps	One (1) Flomax self priming centrifugal bilge pump belt

	driven from the starboard generator. Capacity 4.1 L/s, capable of drawing from the fish hold, lazaret and engine-room through 38.1 mm bilge lines. One (1) Flomax 8 centrifugal general service pump, belt driven from the main engine. Capacity 2.7 L/s. Capable of drawing from the fish hold, lazaret and engine-room through 38.1 mm bilge lines
Steering gear	Wagner 2 cylinder hydraulic
Cargo	195 boxes cooked shrimp, approx. 3 tonnes
Managing Owner	Carol Soucy Sept-Iles, Quebec
Crew	4 + 1 fishing observer
Navigation Equipment	
Radar (1)	Furuno FR 701
Radar (2)	Decca RM 916C
Magnetic Compass	Decca 42686 B
Autopilot	Decca DP 150
Loran C	Furuno LC 200 II fitted with a Furuno LC3000 Latitude and Longitude converter
Video Plot	Furuno GD 102
Log	Electro-magnetic Logben Amphitrite
Echo Sounder (1)	Furuno FED 824 AF
Echo Sounder (2)	Furuno FCV III
SSB Radio	Motorola Triton 20

VHF (1)	Cybernet CTX 7800S
VHF (2)	Cybernet CTX 7800
VHF (3)	Raytheon 350
Chart in use	CHS L/C. 4026

Description of Vessel

The "MONIKAROLINE S" is a steel hulled fishing vessel. Her engine is situated forward, as is her navigating bridge which is of aluminium construction. She is employed mid-water trawling for shrimp and her catch is cooked on board before stowage in her refrigerated fish hold for processing ashore.

The vessel was built and inspected as per the Small Fishing Vessel Inspection Regulations of the Canadian Coast Guard. She was certificated as a Home Trade II Fishing Vessel within the limits of the Gulf of St. Lawrence.

Her Inspection Certificate (S.I.C. 29) was issued on September 1, 1982 and was valid to August 31, 1986.

Background

NOTE: 1) All times mentioned in this report are Eastern Standard Time (U.T.C. minus 5 hours).

2) A glossary of abbreviations may be found in Annex 1.

On March 31, 1986 the "MONIKAROLINE S" sailed from Sept-Iles, Quebec, for the shrimp fishing grounds south-east of Cap Henri, Anticosti Island, where she commenced fishing on April 1, 1986, landing her catch at Port Menier, Quebec on a daily basis.

The vessel departed from the fishing grounds, with a part-catch, at about 1800 on April 6, 1986 to return to Sept-Iles. At 2230 the skipper set course by autopilot for Petite Boule Island at the eastern approach to Sept-Iles. After having arranged the bridge watch, the skipper retired for the night.

At about 0245 on April 7, 1986 the watch informed the skipper that the vessel was about 1/2 mile from land right ahead. The skipper came to the bridge immediately and reversed the propeller. As the vessel gathered sternway she ran aground. The weather was clear.

At 0257 the vessel reported to CGRS VCK at Sept-Iles that she was aground on a falling tide in a position later determined to be on St. Olaf Reef on the eastern side of Grosse Boule Island. After unsuccessful efforts to refloat the vessel in rapidly worsening weather conditions, the five persons on board were evacuated by 1426, that same day, by a Canadian Armed Forces SAR helicopter.

Gale force winds continued for the next few days, driving the vessel over the reef towards the shore.

After several days of work involving a bulldozer to clear a channel and the welding of sponsons to the vessel's sides, she was refloated on April 29, 1986 and towed to Sept-Iles for repairs. Preliminary estimates for the cost of refloating and repair are in the region of $700,000.

As the vessel was insured for over $900,000, a partial loss was declared.

No person was injured, nor was pollution known to have been caused as a result of the casualty.

Narrative

At 2230 on April 6, 1986, the "MONIKAROLINE S" was in approximate position 49°49' N, 64°45' W, en route for Sept-Iles. The vessel's catch for the day, about 3 tonnes of shrimp, had been cooked, placed in boxes and stowed in the refrigerated fish hold, ready for discharge and further processing at Sept-Iles. The fish hold was battened down.

The skipper set course by autopilot to 315° magnetic (about 290°T) to pass 1/2 mile north of Petite Boule Island at the entrance to Sept-Iles. One of the vessel's radars was in use and switched to the 48 mile range. The north shore of the Gulf of St. Lawrence was plainly visible on the radar screen at an approximate distance of 30 miles. The vessel's Loran C was also operating.

After having called to the wheel-house the two crew-members whom he had designated to relieve him throughout the night, the skipper issued his instructions to both men, and retired.

There is conflicting evidence as to the precise orders given by the skipper to his reliefs. According to the skipper these were:

- he was to be called if the navigation lights of another vessel or anything unusual was sighted;

- the watch was to be relieved at 0130 on April 7, 1986;

- the person on watch at the time was to report by VHF radio to VTS at Sept-Iles when the vessel entered the VTS traffic zone at longitude 66° W;

- he was to be called at 0400, or whe the vessel was 1 mile from Petite Boule Island.

According to the watch from 2230, April 6 to 0130, April 7, 1986:

- the skipper was to be called if the navigation lights of another vessel or anything unusual was sighted, visually or by radar;

- the watch was to be relieved at 0130 on April 7, 1986;

- he was to inform his relief that the skipper was to be called at 0430, or when the vessel was 1 mile from Petite Boule Island.

According to the watch from 0130 April 7, 1986 until the grounding:

- the skipper was to be called if the navigation lights of another vessel or anything unusual was sighted, visually or by radar;

- he was to call the skipper at 0430, or when the vessel was 1 mile from Petite Boule Island.

There were no written instructions from the skipper to those on watch.

From 2230 on April 6, 1986, the vessel continued on her course towards Sept-Iles, steering by autopilot, rolling easily in a following wind, sea and swell, at her normal cruising speed of about 8.5 knots.

No report was made to VTS Sept-Iles when the vessel crossed Longitude 66° W and entered the Sept-Iles Traffic Zone.

The radar was kept on the 48 mile range. No position was obtained by visual bearings, radar, by Loran C or other method, and none was marked down on the chart. No alteration of course or speed was made.

As ordered, the watch was relieved at 0130 on April 7, 1986 and, as normal, there was one person to a watch.

As on the previous watch, no position was obtained by any means, and none was marked on the chart. No alteration of course or speed was made.

Shortly before 0245, the person on watch changed the range of the radar from the 48 to the 6 mile range. Observing that there was land right ahead on the radar within the 1 mile radar range ring at an approximate distance of 1/2 to 3/4 mile, he called the skipper, who, after looking through his cabin bridge-front window, came immediately to the bridge.

On his arrival on the bridge, the skipper switched on the vessel's forward searchlight. It was observed that there was no precipitation and that there was land right ahead. The propeller pitch was reversed to full astern. As the vessel gathered sternway she was felt to strike the bottom heavily on her after part. The shock of the grounding awoke the rest of the crew, one of whom noted the time as being 0250.

Shortly after the grounding the vessel swung to starboard which put the weather on her starboard side. The vessel became fast in this position. It was observed that the wind was from the south-east (magnetic) about south-south-east (true) at a speed of about 20 knots. The main engine was left running with the propeller in neutral pitch in its nozzle.

The skipper called CGRS VCK at Sept-Iles on VHF channel 16 at 0257 to report that the vessel was aground on Petite Boule Island on a falling tide. The vessel's position, as given in Loran 'C' co-ordinates in the message, was incorrect. It was later determined that the vessel was aground on St. Olaf Reef east of Grosse Boule Island.

A report of the incident was made by CGRS VCK to MRSC Quebec at 0300. After the vessel was determined to be in approximate position 50°09' N., 66°17' W., RCC Halifax was advised by MRSC Quebec of the situation. At the request of MRSC Quebec a "PAN" message was broadcast by CGRS VCK at 0334.

The following vessels were advised of the urgency as follows:

CCGV "MONTCALM" at Baie Comeau at 0311
FV "SOL-YAN" at Sept-Iles at 0320

Tug "POINTE SEPT-ILES" at Sept-Iles at 0325
FV "JOCELYN B.N." at Sept-Iles at 0400.

The "SOL-YAN", "POINTE SEPT-ILES" and "JOCELYN B.N." arrived at the scene at 0420, 0435 and 0420 respectively. Due to the fact that the 3 vessels were on the way to assist, the "MONTCALM" was stood down at 0410. The PAN message was cancelled at 0408.

At 0349 the "MONIKAROLINE S" reported that she was listing 25° to 30° to port. The crew was directed to sound all spaces to see if the vessel was making water and, at 0402, a report was made to VCK that the hull was intact; the vessel was not making water at this time. She settled on the bottom and increased her list as the tide fell.

Soundings taken over the shipside forward and at her mid-length showed that the vessel was in approximately 1 metre of water forward and 2 metres aft along her port side. Soundings were not taken over her starboard side due to the fact that waves were breaking over the vessel from that side.

The tug "POINTE SEPT-ILES" and the "SOL-YAN" left the scene to return to Sept-Iles, leaving the "JOCELYN B.N." standing by off the reef to assist if required. Plans were made to attempt to refloat the vessel at the next high tide at 1250. Low water was at 0635.

As the tide rose after 0635 the wind backed to north-east and increased in speed to about 30 knots. The vessel, listing 35° to port, was carried slowly towards the shore by the wind and waves, frequently striking her bottom heavily on the reef.

At 0900 it was discovered that the engine-room was making water. The vessel's general service pump, belt driven from the main engine, and her bilge pump, belt driven from her starboard generator, were clutched-in in an attempt to pump out the engine-room. The two pumps have a combined capacity of 6.8 L/s. The main engine was kept running to drive the general service pump. All persons on board donned their life jackets.

Shortly afterwards the main engine was observed to be overheating from what appeared to be a fault in her seawater cooling system. It is also thought that damage to this system may have also been the source of the water flooding into the engine-room. The main engine was shut down.

The starboard generator continued to run until about 1000 when the water level in the engine-room was about to

reach it; the skipper then shut the generator down and removed the fuse links from the generator distribution panel. The diesel fuel tank valves were closed to limit the chance of pollution from this source. There remained about 6 800 litres (1 500 gallons) of light diesel fuel aboard.

After the vessel's generator was shut down her VHF continued to function on batteries located in the engine-room. The batteries, having been submerged in seawater for some 2 hours, ceased to supply current to the VHF at 1146 when radio contact with the vessel was lost.

At 0903, CGRS VCK, on being informed of the situation, asked the skipper if he wished to abandon the vessel. At this time plans had been made to temporarily evacuate the crew and then bring them back in the evening, when an attempt to refloat the vessel was to be made. To do this, the owner had chartered a helicopter from Sept-Iles. However, the helicopter was not equipped with a rescue winch and was unable to land near the vessel. These attempts at evacuation, which were commenced at about 1032, were abandoned as being too dangerous at about 1104.

As it was considered impossible to evacuate the vessel by means of her aluminium dory in the worsening weather conditions, a request for a helicopter from CFB Summerside was made by the vessel to CGRS VCK at 1108. The request was relayed by CGRS VCK to MRSC Quebec and by MRSC Quebec to RCC Halifax at 1117. RCC Halifax relayed the request to CFB Summerside at 1121. Canadian Forces Aircraft, Buffalo R459 and helicopter R310, were tasked for the rescue.

Helicopter R310 and Buffalo R459 took off from Summerside CFB at 1150 and 1214 respectively. The Buffalo was overflying the scene at 1315 and the helicopter at 1401. Due to the breakdown of the vessel's VHF as described above, direct communication between the aircraft and the vessel was not established.

Weather conditions had meantime deteriorated considerably, ceiling was 305 m (1 000 ft) and visibility 3/4 mile in snow; the wind was easterly at 35 to 40 knots, and the sky was overcast.

In spite of the adverse circumstances the three crewmembers were able to be winched aboard the helicopter by 1413, and the helicopter then left the scene to land them at Sept-Iles airport. The remaining crew were evacuated in a similar manner at 1426 and landed at Sept-Iles airport at 1430.

During the evacuation the helicopter experienced difficulty due to a reduction of cooling air caused by the partial blockage of the engine intakes by snow and ice accumulation.

For the next three days the area of the grounding was subject to gale force easterly winds, snow, and rain which carried the abandoned vessel over the reef on to the shore of Grosse Boule Island, and it was not until Friday, April 11, 1986 that flying conditions allowed a helicopter to return to the scene to inspect the wreck.

The vessel was eventually salvaged and towed to Sept-Iles for repairs on April 29, 1986.

Analysis

1. Weather and Tidal Conditions

A small craft warning was in effect for the area Pointe-des-Monts to Anticosti for the evening of April 6, 1986 and subsequently for the whole period of the emergency.

Easterly winds at 10 to 15 knots with snow were forecast on April 7. It was forecast that winds would increase to 20 to 30 knots.

Weather forecasts were obtained on board the vessel on VHF channel 21B.

Weather conditions as observed on board closely approximated those forecast. These forecasts were:

April 6, 1986 at 1800:

Wind	East at 10-15 knots
Sea	Moderate
Swell	Moderate
Visibility	Very good.

April 7, 1986 at 0300:

Wind	East at 15-20 knots
Sea	Moderate/rough
Swell	Moderate
Visibility	Very good
Precipitation	None.

April 7, 1986 at 0700:

Wind	East-south-east at 30 knots
Sea	Very rough

Visibility Variable in snow/freezing rain.

April 7, 1986 at 1400:

Wind	East at 35 to 40 knots
Sea	Very rough - breaking over vessel
Ceiling	305 m (1 000 feet)
Visibility	3/4 mile in snow/freezing rain.

It will be seen that the vessel experienced a following wind on her passage from Anticosti Island towards Sept-Iles. She did not encounter floating ice on the passage.

According to the Sailing Directions for the Gulf and River St. Lawrence, Sixth Edition 1985, para. 532, the rate of horizontal water movements in the Gulf of St. Lawrence seldom exceeds 1 knot and the direction is very variable. (See Annex 2).

In the vicinity of Petite and Grosse Boule Islands, it was reported that the tide sets out of Sept-Iles in a generally southerly direction on a falling tide.

On April 7, 1986 the times of high and low water at Sept-Iles were:

HW	0035	2.3 m
LW	0635	0.4 m
HW	1250	2.7 m
LW	1900	0.3 m

The range of tide corresponds to the range of a mean tide.

After the crew had been evacuated at 1430 on April 7, 1986, the weather conditions remained the same until April 11. During this time the vessel was carried over St. Olaf Reef and beached on the shore of Grosse Boule Island in approximate position 50°09'20" N, 66°16'30" W.

2. Vessel speed on passage towards Sept-Iles

The vessel's maximum speed on trials in 1982 was found to be 9.3 knots. On the passage from the fishing grounds towards Sept-Iles, she was said to be proceeding at her cruising speed of 8.5 knots.

The last position obtained by the vessel before running aground at 0250 on April 7 was at 2230 on April 6, 1986.

At 1800 on April 6, 1986, the vessel was, reportedly, in position 49°34' N, 64°06' W approximately and, at which time, she left the fishing grounds. The distance between this position and that of her grounding on St. Olaf Reef at 0250 the following day is about 93 miles. The time interval between the two positions was 8.83 hours, which gave her an average speed of 10.53 knots. Given that the position was correct and that the vessel was proceeding at her cruising speed of 8.5 knots, the vessel must have experienced a combined westerly set and drift at a rate of 2.04 knots approximately.

At 2230 on April 6, 1986, the vessel was reported to have been in position 49°49' N, 64°45' W approximately at which time her position was reported to have been fixed by Loran 'C'; the Loran 'C' was known to be operating correctly on the fishing grounds but this position is based on memory and may be incorrect. The distance between this position and that of her grounding on St. Olaf Reef at 0250 the following day is about 62.7 miles. The time interval between the two positions was 4.67 hours, which gives an average speed of 13.43 knots. If the vessel was proceeding at her cruising speed of 8.5 knots, the vessel must have experienced a combined westerly set and drift at a rate of 4.93 knots approximately.

It will be seen that the variance between the two rates of combined set and drift thus calculated would make the average speed of the vessel, as calculated from the position of 1800 a more practical possibility and that the vessel was probably some 18 miles to the west of the position obtained by Loran 'C' at 2230. (Speed 10.53 x 4.5 hours).

Furthermore, a calculation of the vessel's speed between the positions of 1800 and 2230 (30 miles + 4.5 hours = 6.7 knots) is at variance with all other calculations, also indicating that the position of 2230 was probably incorrect.

There is confusion regarding the ETA of the vessel.

At 2230 the skipper estimated that the vessel would be 1 mile off Petite Boule Island, a distance to run of 62.5 miles, at 0400 the following day. For this to be the case the vessel would have needed to maintain an average speed of 11.23 knots. It was reported that the estimation was, in fact, made using the vessel's cruising speed of 8.5 knots, and that no allowance was made for set and drift.

From the above it will be seen that:

a. The position obtained at 2230 on April 6, 1986 was probably incorrect, and,

b. In addition, a serious error was made in the calculation of the ETA off Petite Boule Island.

Even the position given for 1800 on April 6, giving a westerly set and drift of 2.04 knots, raises doubts about its accuracy.

3. **The course steered**

At 2230 on April 6, 1986, course was set to 315° M (about 290° T), the course usually steered by the vessel from the west point area of Anticosti Island towards Petite Boule Island at Sept-Iles. The vessel normally passed to the north of Petite Boule Island when approaching Sept-Iles from the east. No allowance was made for the deviation of the compass, however it was stated that the compass did not have an appreciable error due to deviation on this heading. The difference between the course steered and the course made good was 290° - 289° T = 1° east, which may also have been due to the outflow of water from Sept-Iles Bay on the falling tide. Variation in the area is charted as 23 3/4°W.

4. **Watchkeeping on board**

Neither the skipper nor a member of the crew held a Certificate of Competency issued by the Department of Transport, nor were they required to do so by the Canada Shipping Act or its Regulations.

The skipper is the holder of a restricted Radiotelephone Operator's Certificate. Of those on board the vessel, he alone was licenced to communicate by radio, and thus to report when the vessel crossed 66° W, the eastern limit of Sept-Iles VTS area.

The St. Lawrence Waterway Marine Traffic Regulations state in Section 3 (c) that the regulations apply to:

> "Vessels of 7.6 m (25 ft) in length or more, other than pleasure yachts of less than 65 feet in length."

and in Section 7 (1):

> "The master, officer in charge, or pilot of a vessel in transit shall

> communicate with the marine traffic regulating centre located at the reporting point referred to in the current Notices to Mariners." (See Annex 6).

and in Section 12:

> "When a vessel is entering or leaving a sector, the master, officer in charge or pilot shall report its movement to the marine traffic regulator of the sector it is entering and to the marine traffic regulator of the sector it is leaving."

Upon departure from Sept-Iles on March 31, 1985, the "MONIKAROLINE S" reported to the VTS that she was proceeding to the fishing grounds off Anticosti Island (located east of 66°W longitude). Hence, the vessel was required to report to the VTS on re-entering the Sept-Iles VTS area i.e. crossing 66°W longitude, but the vessel failed to report.

The crew who relieved the skipper on watch from 2230 on April 6 to 0130 on April 7, 1986, and from 0130 until the vessel ran aground at 0250 had no formal training in navigation. Neither knew how to obtain a position from the Loran 'C', although both said that they were capable of interpreting basic information from the radar.

Both these deck-hands reported that they had never formally obtained a position while on watch by any means, nor had they ever marked a position on the chart. It was further reported that this omission was common aboard similar vessels on which the more experienced crewmember had served, and that he had not been required by the skipper to obtain and mark down positions.

The radar was kept on the 48 mile range throughout both watches until shortly before the grounding, when it was switched to the 6 mile range. It was at this time that the vessel's distance from land was properly appreciated and the deck-hand on watch called the skipper. Had the radar range been changed to 6 miles earlier, it may have been possible at that time to appreciate the vessel's proximity to land and to take necessary action to avoid the grounding. Additionally, neither of the vessel's echo-sounders was running prior to the grounding, which

would have indicated decreasing depths.

The man on watch immediately prior to the grounding had had three hours sleep before coming on watch. Previously he had worked on deck throughout the day of April 6, 1986. He had 4 months of experience as a deck-hand aboard the vessel, his total sea-time.

Part 1 of the Recommended Code of Nautical Procedures and Practices 1985, published by the Canadian Coast Guard, sets out the basic principles to be observed in keeping a navigational watch. (See Annex 3). Except for the provisions for a look-out, the persons in charge of the watch did not have the competence or experience to be able to comply with the provisions of the Code, and in fact they did not do so.

The order given by the skipper regarding the time at which he was to be called was in error due to his miscalculation of the vessel's ETA and the alternative position at which he was to be called left little margin for error. He did not take over the watch until the vessel was about 1/2 mile from the shore and already in shoal water.

The visibility on the vessel's approach to Sept-Iles was reported to be good. There was no precipitation, but the sky was overcast and it was very dark. The look-out did not see Petite Boule Island visually.

There are no navigational aid lights on either of the two islands in question, and the islands are not permanently inhabited. Shore lights on the mainland, in particular those around Sept-Iles airport, would have been visible. All surrounding coastlines are excellent radar targets.

The steering and sailing rules of the International Regulations for Preventing Collisions at Sea, 1972 in Part B, section 1 set out in Rule 5 the requirements for the keeping of a look-out; the rule states:

> "Every vessel shall at all times maintain a proper look-out by sight and hearing as well by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision."

"All available means" were not employed and those that were, were not employed efficiently.

Extracts from the Regulations may be found in Annex 4.

5. **Loran 'C'**

The Loran 'C' equipment on board was not of the type which had the capability of automatic 'chain' change. The aid was not in any way employed by those on watch after 2230 on April 6, 1986 until the time of the grounding.

The fact that the Loran 'C' 'chain' had not been changed from the time that the vessel had been at the fishing grounds caused some initial confusion about the vessel's position aground given in the initial message to CGRS VCK, as one of the co-ordinates given was not valid for, or printed on, CHS Loran 'C' Chart No. L/C 4026.

It is possible that the error in the position obtained by the skipper at 2230 on April 6, 1986 was also caused by the omission to change 'chain' as the vessel proceeded towards Sept-Iles.

6. **Reporting of the incident**

The skipper reported his vessel was aground as soon as it was practical to do so. Apart from the initial confusion about the vessel's position, he took all steps to ensure the eventual rescue of those on board.

7. **Damage**

The vessel suffered severe damage after grounding. Her propeller nozzle was set up in a forward direction and she lost her rudder and skeg. The hull plating was split along the line of her chine to her mid-length on the port side, with a large number of indents and some associated vertical splits in the shell plating at and between frames. The accommodation forward was also heavily damaged. (See photos).

Preliminary estimates of repair costs were in the region of $700,000.

8. **Life-saving Equipment**

At the time of the incident the "MONIKAROLINE S" had on board:

- 1 approved Springbok aluminium dory, capacity 5 persons;

- 2 approved lifebuoys, both equipped with lines, one of which is also equipped with a light;

- 5 approved lifejackets; and

- 6 type A and 12 type C distress rockets.

According to the Small Fishing Vessel Inspection Regulations - Life Saving Equipment - Section 30, para. 4 (c) (iii), (see Annex 5) the vessel was also required to have on board an inflatable liferaft capable of accomodating 75% of the persons on board.

As part of her normal inventory the vessel had such a liferaft, capacity 6 persons, but it had been sent to a service depot at Sandy Beach, Gaspe, for servicing. It was received at the depot on March 19, 1986 and returned to the vessel's owners on April 14, 1986. It was not therefore on board the vessel at the time of the incident, nor had it been replaced by another liferaft. The vessel did not therefore comply with the above cited regulation.

Sometime after the grounding the aluminium dory was carried away from its mounting on the after end of the vessel by seas breaking over the stern and it was wrecked on the reef and broken in two.

When it became apparent that the vessel was making water in the engine-room, all persons donned their lifejackets and continued to wear them until rescued by the helicopter.

9. The skipper of the "MONIKAROLINE S" was not certificated, nor was he required to be. He has 15 years of experience in fishing, 8 of which were on vessels employed in shrimp fishing in the Lower St. Lawrence River area and belonging to the same owner as the subject vessel.

10. The deck-hand on watch from 2230 on April 6 to 0130 April 7, 1986 was not certificated, nor was he required to be. He has 20 years of experience as a fisherman, 3 of which were aboard similar fishing vessels to the "MONIKAROLINE S". This was his first voyage aboard the subject vessel.

11. The deck-hand on watch from 0130 to 0250 on April 7, 1986 was not certificated, nor was he required to be. He has less than 1 season's experience as a fisherman in

total, of which all has been on board the "MONIKAROLINE S".

Findings

The FV "MONIKAROLINE S" ran aground on St. Olaf Reef off Grosse Boule Island due to an error of navigation while proceeding towards Sept-Iles, sustaining extensive damage as a result. It would appear that the grounding occurred due to the following contributory factors:

- the calculation of the vessel's ETA was substantially in error, either due to an incorrect departure position, a mathematical miscalculation or to an excessive and unusual set and drift;

- those in charge of the watch after the skipper retired were not sufficiently experienced in navigation and failed to monitor the vessel's progress along her intended course;

- the crewmember on watch from 0120 April 7, was the least experienced member of the crew even though he was expected to make the landfall, and he failed to call the skipper when 1 mile from land, as ordered; and

- in the prevailing circumstances the order given by the skipper to be called 1 mile from Petite Boule Island left an insufficient margin for safety.

Other Findings

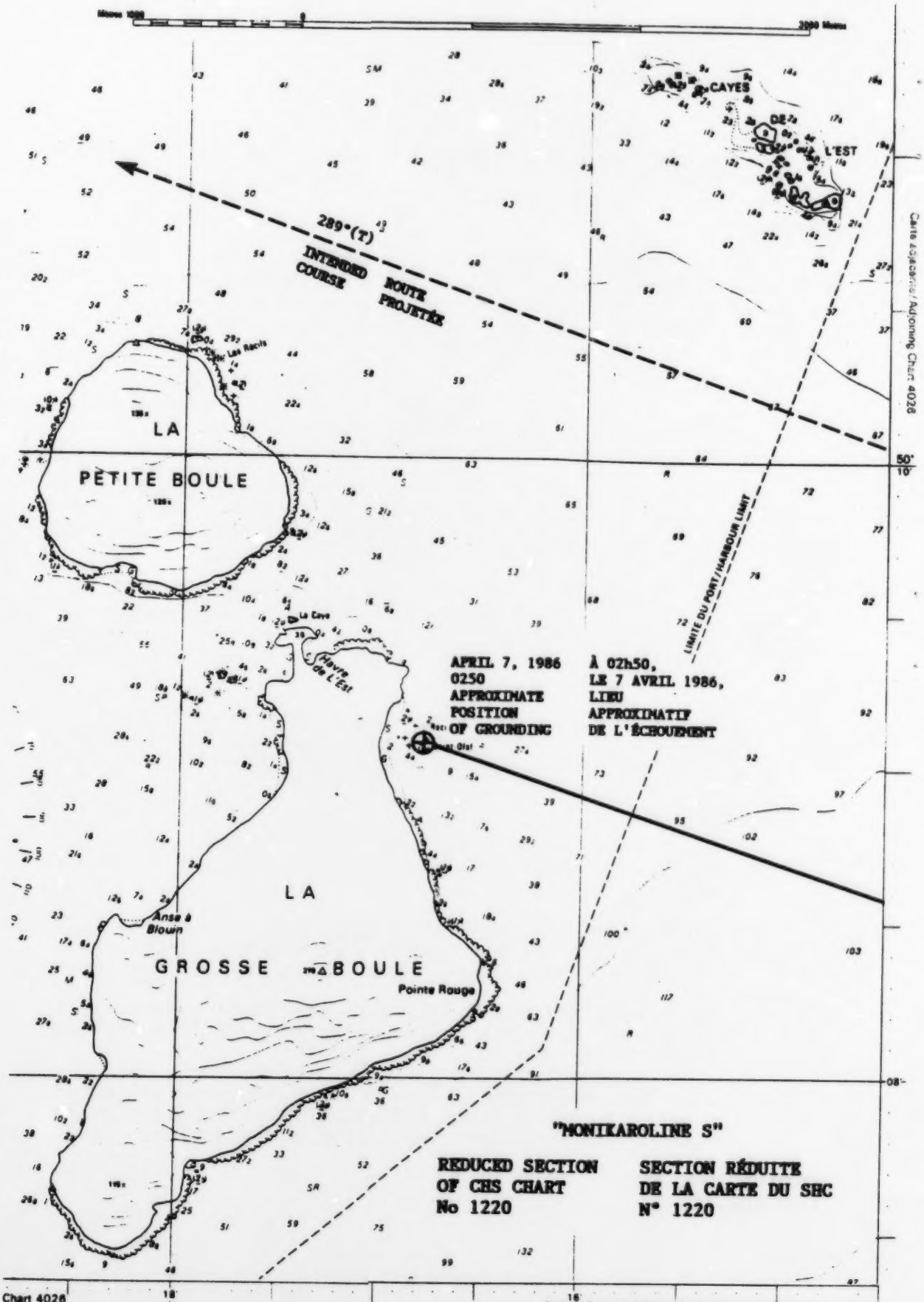
- after the vessel grounded the skipper took all necessary steps to ensure the safety of those on board;

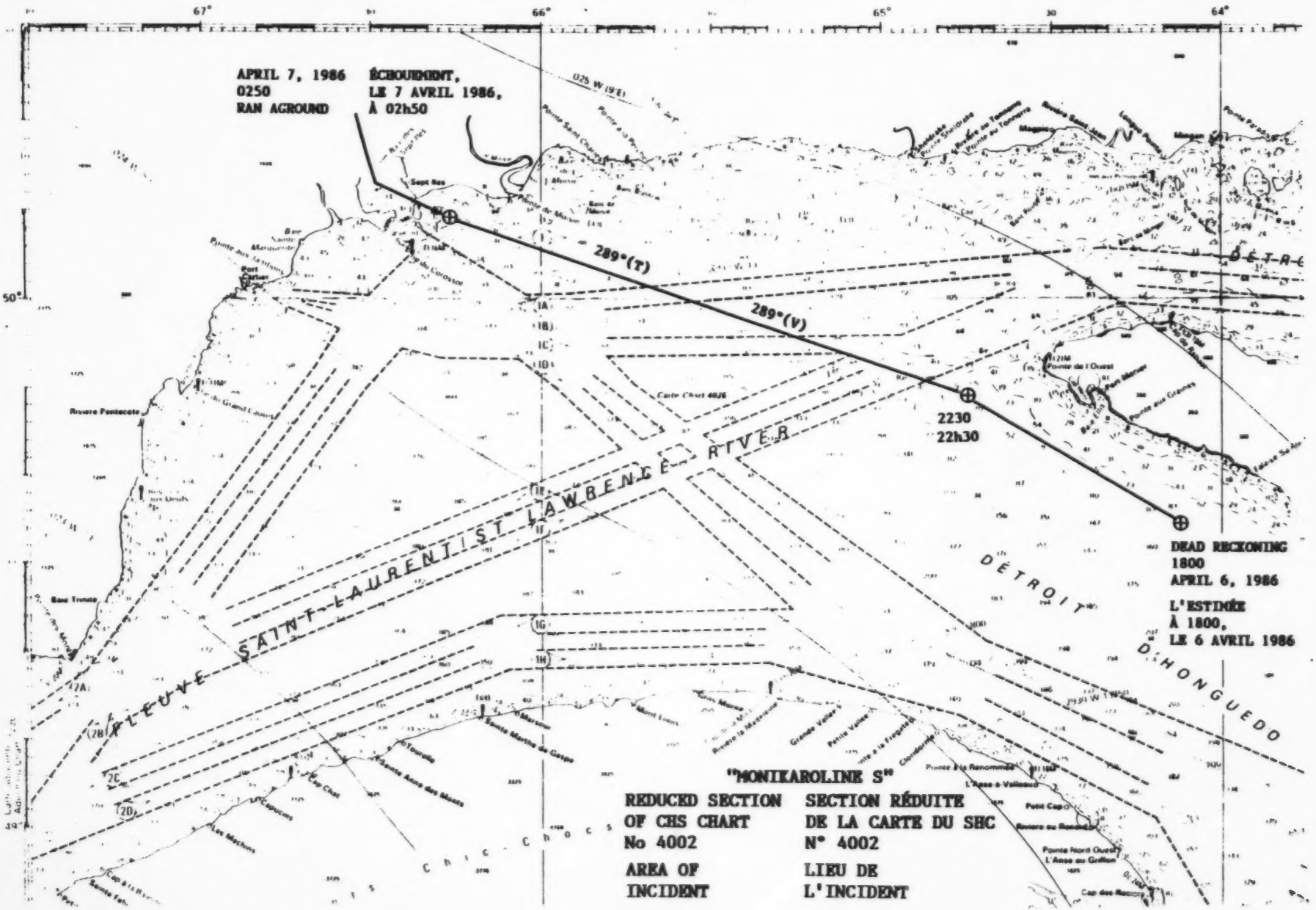
- at the time of the grounding the vessel did not comply with the life-saving equipment provisions of the Small Fishing Vessel Inspection Regulations;

- the vessel did not comply with the reporting requirements of the St. Lawrence Waterway Marine Traffic Regulations, and

- the SAR helicopter from CFB Summerside evacuated those on board the "MONIKAROLINE S" quickly and without injury under very difficult conditions.

OTTAWA, ONTARIO
OCTOBER, 1986.


CAYES
DE L'EST
289°(T)
INTENDED COURSE
ROUTE PROJETÉE
LA PETITE BOULE
LIMITE DU PORT / HARBOUR LIMIT
APRIL 7, 1986 0250 APPROXIMATE POSITION OF GROUNDING
À 02h50, LE 7 AVRIL 1986, LIEU APPROXIMATIF DE L'ÉCHOUEMENT
LA GROSSE BOULE
Anse à Blouin
Pointe Rouge
"MONIKAROLINE S"
REDUCED SECTION OF CHS CHART No 1220
SECTION RÉDUITE DE LA CARTE DU SHC N° 1220
Chart 4026


APRIL 7, 1986
0250
RAN AGROUND
ÉCHOUEMENT,
LE 7 AVRIL 1986,
À 02h50
289°(T)
289°(V)
2230
22h30
DEAD RECKONING
1800
APRIL 6, 1986
L'ESTIMÉE
À 1800,
LE 6 AVRIL 1986
FLEUVE SAINT-LAURENT
SAINT LAWRENCE RIVER
DÉTROIT D'HONGUEDO
67°
66°
65°
64°
50°
"MONIKAROLINE S"
REDUCED SECTION OF CHS CHART No 4002
AREA OF INCIDENT
SECTION RÉDUITE DE LA CARTE DU SHC N° 4002
LIEU DE L'INCIDENT

ANNEX 1

CCGV	Canadian Coast Guard Vessel
CFB	Canadian Forces Base
CGRS	Coast Guard Radio Station
ETA	Estimated time of Arrival
FV	Fishing Vessel
Knot	Unit of speed, one nautical mile per hour
MRSC	Marine Rescue Sub-Centre
PAN	Radiotelephone Urgency Message sent on 156.8 MHZ or 2182 KHZ
RCC	Rescue Co-ordination Centre
SAR	Search and Rescue
T	True
UTC	Co-ordinated Universal Time, replaces GMT
VTS	Vessel Traffic Services.

ANNEX 2

Extract from the Sailing Directions for the Gulf and River St. Lawrence Sixth Edition 1985.

"Gulf of St. Lawrence. - Throughout the Gulf of St. Lawrence, the horizontal water movements are the results of progressive movements of the waters, on which are imposed the tidal influences, effects of the winds and varying atmospheric pressures. Their directions may turn with more or less regularity with the rise and fall of the tide, but they may be retarded, or reversed, or they may be stronger in their prevailing directions when different factors are in unison. The rate in most of the open areas of the gulf seldom exceeds 1 knot; the direction, therefore, is very variable being easily influenced by changes in meteorological conditions, and on this account it is necessary to exercise caution in navigation. In a broad sense, a general circulation exists in the gulf area, the rotation being counterclockwise."

ANNEX 3

RECOMMENDED CODE OF NAUTICAL PROCEDURES AND PRACTICES TO BE FOLLOWED BY PERSONS ON BOARD SHIPS IN ORDER TO ENSURE SAFETY AND POLLUTION PREVENTION

PART I

BASIC PRINCIPLES TO BE OBSERVED IN KEEPING A NAVIGATIONAL WATCH

1. Parties shall direct the attention of shipowners, ship operators, masters and watchkeeping personnel to the following principles which shall be observed to ensure that a safe navigational watch is maintained at all times.
2. The master of every ship is bound to ensure that watchkeeping arrangements are adequate for maintaining a safe navigational watch. Under the master's general direction, the officers of the watch are responsible for navigating the ship safely during their periods of duty when they will be particularly concerned with avoiding collision and stranding.
3. The basic principles, including but not limited to the following, shall be taken into account on all ships.

4. **Watch arrangements**

   (a) The composition of the watch shall at all times be adequate and appropriate to the prevailing circumstances and conditions and shall take into account the need for maintaining a proper lookout.

   (b) When deciding the composition of the watch on the bridge which may include appropriate deck ratings, the following factors, *inter alia*, shall be taken into account:

      (i) at no time shall the bridge be left unattended;

      (ii) weather conditions, visibility and whether there is daylight or darkness;

      (iii) proximity of navigational hazards which may make it necessary for the officer in charge of the watch to carry out additional navigational duties;

      (iv) use and operational condition of navigational aids such as radar or electronic position-indicating devices and any other equipment affecting the safe navigation of the ship;

      (v) whether the ship is fitted with automatic steering;

      (vi) any unusual demands on the navigational watch that may arise as a result of special operational circumstances.

5. **Fitness for duty**

   The watch system shall be such that the efficiency of watchkeeping officers and watchkeeping ratings is not impaired by fatigue. Duties shall be so organized that the first watch at the commencement of a voyage and the subsequent relieving watches are sufficiently rested and otherwise fit for duty.

6. **Navigation**

   (a) The intended voyage shall be planned in advance taking into consideration all pertinent information and any course laid down shall be checked before the voyage commences.

   (b) During the watch the course steered, position and speed shall be checked at sufficiently frequent intervals, using any available navigational aids necessary, to ensure that the ship follows the planned course.

   (c) The officer of the watch shall have full knowledge of the location and operation of all safety and navigational equipment on board the ship and shall be aware and take account of the operating limitations of such equipment.

   (d) The officer in charge of a navigational watch shall not be assigned or undertake any duties which would interfere with the safe navigation of the ship.

7. **Navigational equipment**

   (a) The officer of the watch shall make the most effective use of all navigational equipment at his disposal.

   (b) When using radar, the officer of the watch shall bear in mind the necessity to comply at all times with the provisions on the use of radar contained in the applicable regulations for preventing collisions at sea.

   (c) In cases of need the officer of the

watch shall not hesitate to use the helm, engines and sound signalling apparatus.

8. **Navigational duties and responsibilities**

(a) The officer in charge of the watch shall:

(i) keep his watch on the bridge which he shall in no circumstances leave until properly relieved;

(ii) continue to be responsible for the safe navigation of the ship, despite the presence of the master on the bridge, until the master informs him specifically that he has assumed that responsibility and this is mutually understood;

(iii) notify the master when in any doubt as to what action to take in the interest of safety;

(iv) not hand over the watch to the relieving officer if he has reason to believe that the latter is obviously not capable of carrying out his duties effectively, in which case he shall notify the master accordingly.

(b) On taking over the watch the relieving officer shall satisfy himself as to the ship's estimated or true position and confirm its intended track, course and speed and shall note any dangers to navigation expected to be encountered during his watch.

(c) A proper record shall be kept of the movements and activities during the watch relating to the navigation of the ship.

9. **Look-out**

In addition to maintaining a proper look-out for the purpose of fully appraising the situation and the risk of collision, stranding and other dangers to navigation, the duties of the look-out shall include the detection of ships or aircraft in distress, shipwrecked persons, wrecks and debris. In maintaining a look-out the following shall be observed:

(a) the look-out must be able to give full attention to the keeping of a proper look-out and no other duties shall be undertaken or assigned which could interfere with that task;

(b) the duties of the look-out and helmsman are separate and the helmsman shall not be considered to be the look-out while steering, except in small ships where an unobstructed all-round view is provided at the steering position and there is no impairment of night vision or other impediment to the keeping of a proper look-out. The officer in charge of the watch may be the sole look-out in daylight provided that on each such occasion:

(i) the situation has been carefully assessed and it has been established without doubt that it is safe to do so;

(ii) full account has been taken of all relevant factors including, but not limited to:

- state of weather
- visibility
- traffic density
- proximity of danger to navigation the attention necessary when navigating in or near traffic separation schemes;

(iii) assistance is immediately available to be summoned to the bridge when any change in the situation so requires.

10. **Navigation with pilot embarked**

Despite the duties and obligations of a pilot, his presence on board does not relieve the master or officer in charge of the watch from their duties and obligations for the safety of the ship. The master and the pilot shall exchange information regarding navigation procedures, local conditions and the ship's characteristics. The master and officer of the watch shall co-operate closely with the pilot and maintain an accurate check of the ship's position and movement.

11. **Protection of the marine environment**

The master and officer in charge of the watch shall be aware of the serious effects of operational or accidental pollution of the marine environment and shall take all possible precautions to prevent such pollution, particularly within the framework of relevant international and port regulations.

ANNEX 4

PART B—STEERING AND SAILING RULES

SECTION I—CONDUCT OF VESSELS IN ANY CONDITION OF VISIBILITY

RULE 4

Application

Rules in this Section apply in any condition of visibility.

RULE 5

Look-out

Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.

RULE 6

Safe Speed—International

Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

In determining a safe speed the following factors shall be among those taken into account:

(*a*) By all vessels:

(i) the state of visibility,

(ii) the traffic density including concentrations of fishing vessels or any other vessels,

(iii) the manoeuvrability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions,

(iv) at night the presence of background light such as from shore lights or from back scatter of her own lights,

(v) the state of wind, sea and current, and the proximity of navigational hazards,

(vi) the draught in relation to the available depth of water.

(*b*) Additionally, by vessels with operational radar:

(i) the characteristics, efficiency and limitations of the radar equipment,

(ii) any constraints imposed by the radar range scale in use,

(iii) the effect on radar detection of the sea state, weather and other sources of interference,

(iv) the possibility that small vessels, ice and other floating objects may not be detected by radar at an adequate range,

(v) the number, location and movement of vessels detected by radar,

(vi) the more exact assessment of the visibility that may be possible when radar is used to determine the range of vessels or other objects in the vicinity.

APPENDICE 4

PARTIE B—RÈGLES DE BARRE ET DE ROUTE

SECTION I—CONDUITE DES NAVIRES DANS TOUTES LES CONDITIONS DE VISIBILITÉ

RÈGLE 4

Champ d'application

Les règles de la présente section s'appliquent dans toutes les conditions de visibilité.

RÈGLE 5

Veille

Tout navire doit en permanence assurer une veille visuelle et auditive appropriée, en utilisant également tous les moyens disponibles qui sont adaptés aux circonstances et conditions existantes, de manière à permettre une pleine appréciation de la situation et du risque d'abordage.

RÈGLE 6

Vitesse de sécurité—International

Tout navire doit maintenir en permanence une vitesse de sécurité telle qu'il puisse prendre des mesures appropriées et efficaces pour éviter un abordage et pour s'arrêter sur une distance adaptée aux circonstances et conditions existantes.

Les facteurs suivants doivent notamment être pris en considération pour déterminer la vitesse de sécurité:

a) Par tous les navires:

(i) la visibilité;

(ii) la densité du trafic et notamment les concentrations de navires de pêche ou de tous autres navires;

(iii) la capacité de manœuvre du navire et plus particulièrement sa distance d'arrêt et ses qualités de giration dans les conditions existantes;

(iv) de nuit, la présence d'un arrière-plan lumineux tel que celui créé par des feux côtiers ou une diffusion de la lumière des propres feux du navire;

(v) l'état du vent, de la mer et des courants et la proximité de risques pour la navigation;

(vi) le tirant d'eau en fonction de la profondeur d'eau disponible.

b) De plus, par les navires qui utilisent un radar:

(i) les caractéristiques, l'efficacité et les limites d'utilisation de l'équipement radar;

(ii) les limitations qui résultent de l'échelle de portée utilisée sur le radar;

(iii) l'effet de l'état de la mer, des conditions météorologiques et d'autres sources de brouillage sur la détection au radar;

(iv) le fait que les petits bâtiments, les glaces et d'autres objets flottants peuvent ne pas être décelés par le radar à une distance suffisante;

(v) le nombre, la position et le mouvement des navires détectés par le radar;

(vi) le fait qu'il est possible d'apprécier plus exactement la visibilité lorsque le radar est utilisé pour déterminer la distance des navires et des autres objets situés dans les parages.

Safe Speed—Canadian Modifications

(*c*) In the Canadian waters of a roadstead, harbour, river, lake or inland waterway, every vessel passing another vessel or work that includes a dredge, tow, grounded vessel or wreck shall proceed with caution at a speed that will not adversely affect the vessel or work being passed, and shall take into consideration applicable information contained in any Notice to Mariners or Notice to Shipping.

(*d*) For the purpose of paragraph (*c*), where it cannot be determined with certainty that a passing vessel will not adversely affect another vessel or work described in that paragraph, the passing vessel shall proceed with caution at the minimum speed at which she can be kept on her course.

(*e*) In the Canadian waters of a roadstead, harbour, river, lake or inland waterway, where abnormal water levels, ice conditions or a casualty to a vessel or aid to navigation may

(i) make navigation difficult or hazardous,

(ii) cause damage to property, or

(iii) block the navigational channel,

every vessel shall navigate with caution and shall take into consideration the applicable information contained in any Notice to Mariners or Notice to Shipping with respect to speed, routing and anchorage.

Vitesse de sécurité—Modifications canadiennes

c) Dans les eaux canadiennes d'une rade, d'un port, d'un cours d'eau, d'un lac ou d'une voie navigable intérieure, tout navire qui dépasse un autre navire ou un ouvrage, notamment une drague, un train de remorque, un navire échoué ou une épave, doit passer prudemment à une vitesse qui n'aura pas d'effet néfaste sur le navire ou l'ouvrage dépassé et il doit tenir compte des renseignements applicables contenus dans un Avis aux navigateurs ou un Avis à la navigation.

d) Lorsque, aux fins de l'alinéa *c*), il est impossible de déterminer avec certitude que le passage d'un navire n'aura pas d'effet néfaste sur un autre navire ou sur un ouvrage décrit audit alinéa, le navire passant doit avancer prudemment à la vitesse minimale nécessaire pour le maintenir sur sa route.

e) Dans les eaux canadiennes d'une rade, d'un port, d'un cours d'eau, d'un lac ou d'une voie navigable intérieure, tout navire doit naviguer prudemment et tenir compte des renseignements applicables contenus dans un Avis aux navigateurs ou un Avis à la navigation relativement à la vitesse, à l'organisation du trafic et au mouillage, lorsqu'un niveau d'eau ou un état des glaces anormaux ou un sinistre subi par un navire ou par une aide à la navigation peuvent

(i) rendre la navigation difficile ou dangereuse;

(ii) endommager des biens; ou

(iii) bloquer le chenal servant à la navigation.

RULE 7

Risk of Collision

(*a*) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.

(*b*) Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.

(*c*) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.

(*d*) In determining if risk of collision exists the following considerations shall be among those taken into account:

(i) such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change,

(ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

RULE 8

Action to avoid Collision

(*a*) Any action taken to avoid collision shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.

(*b*) Any alteration of course and/or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing

RÈGLE 7

Risque d'abordage

a) Tout navire doit utiliser tous les moyens disponibles qui sont adaptés aux circonstances et conditions existantes pour déterminer s'il existe un risque d'abordage. S'il y a doute quant au risque d'abordage, on doit considérer que ce risque existe.

b) S'il y a à bord un équipement radar en état de marche, on doit l'utiliser de façon appropriée en recourant, en particulier, au balayage à longue portée afin de déceler à l'avance un risque d'abordage, ainsi qu'au «plotting» radar ou à toute autre observation systématique équivalente des objets détectés.

c) On doit éviter de tirer des conclusions de renseignements insuffisants, notamment de renseignements radar insuffisants.

d) L'évaluation d'un risque d'abordage doit notamment tenir compte des considérations suivantes:

(i) il y a risque d'abordage si le relèvement au compas d'un navire qui s'approche ne change pas de manière appréciable;

(ii) un tel risque peut parfois exister même si l'on observe une variation appréciable du relèvement, particulièrement lorsque l'on s'approche d'un très grand navire, d'un train de remorque ou d'un navire qui est à courte distance.

RÈGLE 8

Manœuvre pour éviter les abordages

a) Toute manœuvre entreprise pour éviter un abordage doit, si les circonstances le permettent, être exécutée franchement, largement à temps et conformément aux bons usages maritimes.

b) Tout changement de cap ou de vitesse, ou des deux à la fois, visant à éviter un abordage doit, si les circonstances le permettent, être assez important pour être immédiate-

visually or by radar: a succession of small alterations of course and/or speed should be avoided.

(*c*) If there is sufficient sea room, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that it is made in good time, is substantial and does not result in another close-quarters situation.

(*d*) Action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. The effectiveness of the action shall be carefully checked until the other vessel is finally past and clear.

(*e*) If necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

ment perçu par tout navire qui l'observe visuellement ou au radar: une succession de changements peu importants de cap ou de vitesse, ou des deux à la fois, est à éviter.

c) Si le navire a suffisamment de place, le changement de cap à lui seul peut être la manœuvre la plus efficace pour éviter de se trouver en situation très rapprochée à condition que cette manœuvre soit faite largement à temps, qu'elle soit franche et qu'elle n'aboutisse pas à une autre situation très rapprochée.

d) Les manœuvres effectuées pour éviter l'abordage avec un autre navire doivent être telles qu'elles permettent de passer à une distance suffisante. L'efficacité des manœuvres doit être attentivement contrôlée jusqu'à ce que l'autre navire soit définitivement paré et clair.

e) Si cela est nécessaire pour éviter un abordage ou pour laisser plus de temps pour apprécier la situation, un navire doit réduire sa vitesse ou casser son erre en arrêtant son appareil propulsif ou en battant en arrière au moyen de cet appareil.

CANADA SHIPPING ACT

Small Fishing Vessel Inspection Regulations

REGULATIONS RESPECTING THE CONSTRUCTION AND INSPECTION OF FISHING VESSELS NOT EXCEEDING 24.4 m REGISTERED LENGTH THAT DO NOT EXCEED 150 TONS, GROSS TONNAGE

(4) Every fishing vessel exceeding 12.2 m in length shall carry

(*a*) one approved lifejacket for each person on board the vessel;

(*b*) two approved lifebuoys, one fitted with 27 m of line and the other with an approved lifebuoy light;

(*c*) in the case of a vessel the keel of which was laid on or after January 6, 1965,

(i) a boat, dory or skiff capable of accommodating not less than four persons,

(ii) an inflatable life raft of sufficient capacity to accommodate

(A) 50 per cent of the persons on board, or

(B) if the vessel makes voyages other than inland voyages and goes beyond the limits of home-trade Class III voyages, 75 per cent of the persons on board, and

(iii) if the equipment required by subparagraphs (i) and (ii) is not capable of accommodating 1 1/2 times the number of persons on board, such additional boats, dories, skiffs or inflatable life rafts as are necessary to provide accommodation in the aggregate for 1 1/2 times the number of persons on board; and

(*d*) in the case of a vessel the keel of which was laid before January 6, 1965,

(i) the equipment described in paragraph (*c*),

(ii) a boat, dory or skiff capable of accommodating not less than four persons together with inflatable life rafts capable of accommodating all persons on board, or

(iii) a sufficient number of lifeboats, boats, dories or skiffs capable of accommodating all persons on board, except that a vessel equipped in accordance with this subparagraph that makes other than inland voyages and goes beyond the limits of home-trade, Class III voyages shall, carry an inflatable life raft of sufficient capacity to accommodate 75 per cent of the persons on board in addition to the equipment already carried.

LOI SUR LA MARINE MARCHANDE DU CANADA

Règlement sur l'inspection des petits bateaux de pêche

RÈGLEMENT CONCERNANT LA CONSTRUCTION ET L'INSPECTION DES BATEAUX DE PÊCHE D'UNE LONGUEUR RÉGLEMENTAIRE D'AU PLUS 24,4 m ET D'UNE JAUGE BRUTE D'AU PLUS 150 TONNEAUX

(4) Tout bateau de pêche d'une longueur de plus de 12,2 m aura

a) un gilet de sauvetage approuvé pour chaque personne à bord;

b) deux bouées de sauvetage approuvées, l'une munie d'une ligne de 27 m et l'autre d'un feu de bouée de sauvetage approuvé; et

c) si sa quille a été posée le 6 janvier 1965, ou après cette date,

(i) une embarcation, un doris ou un esquif pouvant recevoir au moins quatre personnes,

(ii) un radeau de sauvetage pneumatique pouvant recevoir

(A) 50 pour cent du nombre de personnes à bord, ou

(B) s'il effectue des voyages autres que des voyages en eaux intérieures et s'il va au-delà des limites des voyages de cabotage classe III, 75 pour cent du nombre des personnes à bord, et

(iii) si l'équipement prescrit aux sous-alinéas (i) et (ii) ne peut recevoir 1 1/2 fois le nombre de personnes à bord, les embarcations, doris, esquifs ou radeaux de sauvetage pneumatiques supplémentaires nécessaires pour que l'ensemble de l'équipement puisse recevoir 1 1/2 fois le nombre de personnes à bord; et

d) si sa quille a été posée avant le 6 janvier 1965,

(i) soit l'équipement décrit à l'alinéa *c*),

(ii) soit une embarcation, un doris ou un esquif pouvant recevoir au moins quatre personnes, ainsi que des radeaux de sauvetage pneumatiques pouvant recevoir toutes les personnes à bord,

(iii) soit un nombre suffisant d'embarcations de sauvetage ou autres, de doris ou d'esquifs pour recevoir toutes les personnes à bord; toutefois, un bateau muni de l'équipement prévu au présent alinéa qui effectue des voyages autres que des voyages en eaux intérieures et qui va au-delà des limites des voyages de cabotage classe III devra avoir, en sus de l'équipement qu'il a déjà, un radeau de sauvetage pneumatique pouvant recevoir 75 pour cent du nombre de personnes à bord.

ANNEX 6

APPENDICE 6

CHAPTER 1470

CANADA SHIPPING ACT

St. Lawrence Waterway Marine Traffic Regulations

REGULATIONS RESPECTING MARINE TRAFFIC WITHIN THE ST. LAWRENCE WATERWAY

" "Waterway" means the waters of

(*a*) the St Lawrence River extending upstream from the longitudinal meridian of 66°00' West to the upper limits of Montreal Harbour, except for that portion of the St. Lawrence Seaway from St. Lambert Lock to a place 650 0 m downstream from that section of Jacques Cartier Bridge spanning the Seaway; and

(*b*) the Saguenay River and other tributary rivers where vessels enter or leave the St Lawrence River.

(*voie navigable*)"

Application

3. Subject to section 4, these Regulations apply in the Waterway to,

(*a*) air cushion vehicles;

(*b*) seaplanes on the water; and

(*c*) vessels of 25 feet in length or more, other than pleasure yachts of less than 65 feet in length.

Compulsory Reporting Points

7. (1) The master, officer in charge, or pilot of a vessel in transit shall communicate with the marine traffic regulating centre located at the reporting point referred to in the current *Notices to Mariners*.

Sector Reporting

12. When a vessel is entering or leaving a sector, the master, officer in charge or pilot of the vessel shall report its movement to the marine traffic regulator of the sector it is entering and to the marine traffic regulator of the sector it is leaving.

CHAPITRE 1470

LOI SUR LA MARINE MARCHANDE DU CANADA

Règlement sur la circulation maritime dans la voie navigable du Saint-Laurent

RÈGLEMENT CONCERNANT LA CIRCULATION MARITIME DANS LA VOIE NAVIGABLE DU SAINT-LAURENT

« «voie navigable» désigne

a) les eaux du Saint-Laurent à l'ouest du méridien 66°00' de longitude ouest jusqu'à la limite amont du port de Montréal, sauf la partie de la voie maritime du Saint-Laurent comprise entre l'écluse de Saint-Lambert et un endroit situé à 650 m en aval de la section du pont Jacques-Cartier qui enjambe la voie maritime; et

b) les eaux du Saguenay et des autres affluents du Saint-Laurent fréquentés par les navires qui entrent dans le Saint-Laurent ou en sortent.

(*Waterway*) »

Application

3. Sous réserve de l'article 4, le présent règlement s'applique, dans le cas des eaux de la voie navigable,

a) aux aéroglisseurs;

b) aux hydravions posés sur l'eau; et

c) aux navires mesurant 25 pieds de longueur ou plus, sauf les yachts de plaisance mesurant moins de 65 pieds de longueur.

Points de signalisation obligatoires

7 (1) Le capitaine, l'officier responsable ou le pilote d'un navire en transit doit communiquer avec le centre de régulation de la circulation maritime situé à l'un des points de signalisation mentionnés dans l'édition courante des Avis aux navigateurs.

Rapport des mouvements, par secteur

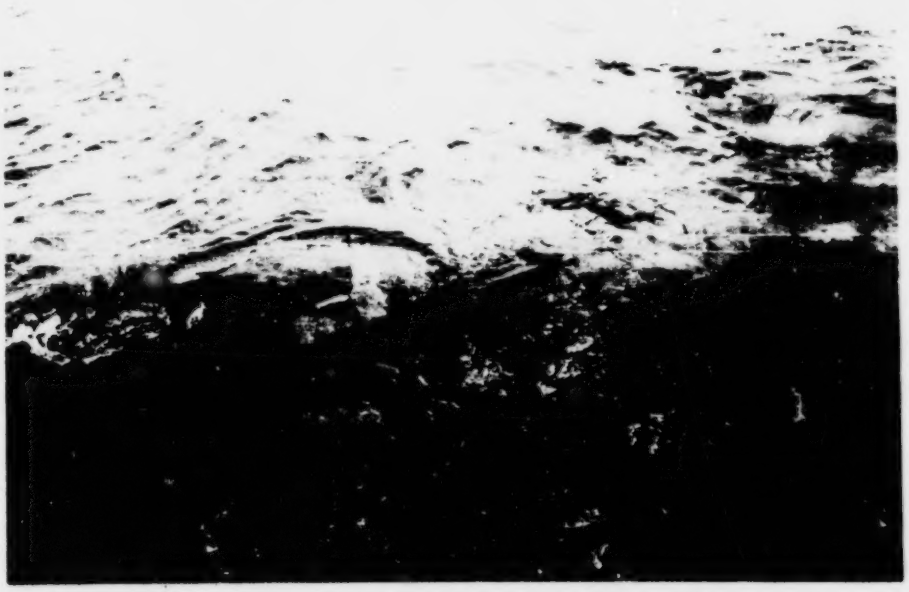
12. Un navire qui sort d'un secteur ou qui pénètre dans un secteur doit signaler son mouvement au régulateur de la circulation maritime du secteur qu'il quitte et à celui du secteur dans lequel il entre.

"MONIKAROLINE S" aground on Grosse Boule Island

"MONIKAROLINE S" échoué sur l'île Grosse Boule

Note: Nozzle set up forward and broken rudder stock

A remarquer: la tuyère deplacée vers l'avant et la mèche du gouvernail cassée



Keel main engine heat exchanger cover plate

Couvercle de l'échangeur thermique de la machine principale sur la quille

Damage port side

Avarie sur côté bâbord

Damage starboard side

Avarie sur côté tribord

Details of damage port side

Détail des avaries sur le côté bâbord